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(54) 14Alpha-hydroxy-4-androstene-3,6,17-trione hydrate crystal and process for producing same

(57) Provided are stable hydrate crystals of 14 $\alpha$ -hydroxy-4-androstene-3,6,17-trione having a biological activity of human placenta-originating estrodiene synthesis enzyme inhibitory action. These hydrate crystals include two kinds of 14 $\alpha$ -hydroxy-4-androstene-3,6,17-trione hydrate crystals having a diffraction pattern having characteristic peaks at diffraction angles in crystalline powder X-ray diffraction. Processes for producing these hydrate crystals are also provided.

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## EUROPEAN SEARCH REPORT

Application Number  
EP 94 10 7654

| DOCUMENTS CONSIDERED TO BE RELEVANT  |   |  | CLASSIFICATION OF THE APPLICATION (Int.CLS) |
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| Category   | Citation of document with indication, where appropriate, of relevant passages   | Relevant to claim  |   |
| A  | EP-A-0 382 162 (SNOW BRAND MILK PROD CO LTD) 16 August 1990<br>* examples 2,3 *   | 1-4  | C07J1/00<br>//A61K31/565                    |
| D,A  | EP-A-0 300 062 (SNOW BRAND MILK PROD CO LTD) 25 January 1989<br>* figures 1,3; example 1 *  | 1-4  |   |
| A  | PATENT ABSTRACTS OF JAPAN<br>vol. 017, no. 394 (C-1088), 23 July 1993<br>& JP-A-05 076387 (SNOW BRAND MILK PROD CO LTD), 30 March 1993,<br>* abstract *<br>& DATABASE WPI<br>Section Ch, Week 9317<br>Derwent Publications Ltd., London, GB;<br>Class B01, AN 93-139581<br>& JP-A-05 076 387 (SNOW BRAND MILK PROD CO LTD), 30 March 1993<br>* abstract * | 1-4  |   |
| A  | PATENT ABSTRACTS OF JAPAN<br>vol. 015, no. 227 (C-0839), 10 June 1991<br>& JP-A-03 068596 (SNOW BRAND MILK PROD CO LTD), 25 March 1991,<br>* abstract *<br>& DATABASE WPI<br>Section Ch, Week 9118<br>Derwent Publications Ltd., London, GB;<br>Class B01, AN 91-129147<br>& JP-A-03 068 596 (SNOW BRAND MILK PRODUCTS), 25 March 1991<br>* abstract *    | 1-4  | TECHNICAL FIELDS SEARCHED (Int.Cls)<br>C07J |
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| <p>The present search report has been drawn up for all claims</p>  |   |  |   |
| Place of search  | Date of completion of the search  | Examiner   |   |
| THE HAGUE  | 22 April 1996   | Watchorn, P  |   |
| CATEGORY OF CITED DOCUMENTS  |   | T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or<br>after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>& : member of the same patent family, corresponding<br>document |   |
| X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another<br>document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document |   |  |   |



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## EUROPEAN SEARCH REPORT

Application Number  
EP 94 10 7654

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| A  | <p>CHEMICAL ABSTRACTS, vol. 111, no. 1, 3 July 1989<br/>           Columbus, Ohio, US;<br/>           abstract no. 3930,<br/>           M. YOSHIHAMA ET AL: "Microbial Production of two new dihydroxylated androstenedione derivatives by Acremonium strictum"<br/>           page 380; column 2;<br/>           XP002001152<br/>           * abstract *<br/>           &amp; J. FERMENT. BIOENG., vol. 67, no. 4, 1989,<br/>           pages 238-243,</p> <p>---</p> <p>P. D. KENNEWELL: "Comprehensive Medicinal Chemistry (The Rational Design, Mechanistic Study &amp; Therapeutic Application of Chemical Compounds)" 1990, PERMAGON PRESS, OXFORD, GB<br/>           XP002001151<br/>           * page 356 - page 359 *<br/>           * in particular, page 356, paragraph 3.6.4.5.2 *</p> <p>-----</p> | 1-4               |   |                 |                                  |          |           |               |             |
| A  |   | 1-4               | TECHNICAL FIELDS SEARCHED (Int.Cl.)         |                 |                                  |          |           |               |             |
|  |   |                   |   |                 |                                  |          |           |               |             |
| <p>The present search report has been drawn up for all claims</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Place of search</td> <td style="width: 33%;">Date of completion of the search</td> <td style="width: 34%;">Examiner</td> </tr> <tr> <td>THE HAGUE</td> <td>22 April 1996</td> <td>Watchorn, P</td> </tr> </table> <p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>X : particularly relevant if taken alone<br/>           Y : particularly relevant if combined with another document of the same category<br/>           A : technological background<br/>           O : non-written disclosure<br/>           P : intermediate document</p> <p>T : theory or principle underlying the invention<br/>           E : earlier patent document, but published on, or after the filing date<br/>           D : document cited in the application<br/>           L : document cited for other reasons<br/>           &amp; : member of the same patent family, corresponding document</p> |   |                   |   | Place of search | Date of completion of the search | Examiner | THE HAGUE | 22 April 1996 | Watchorn, P |
| Place of search  | Date of completion of the search  | Examiner          |   |                 |                                  |          |           |               |             |
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